



Memorandum

TO: JOEL MUNOZ, MARGARET HOGAN, JOHN BELL, AND LINDA GEORGE,
DIVISION OF PUBLIC UTILITIES AND CARRIERS

FROM: TIM WOOLF AND JENN KALLAY, SYNAPSE ENERGY ECONOMICS

DATE: JANUARY 6, 2022

RE: **DETERMINING TARGET INCENTIVE LEVELS FOR EE PIMs**

1. Introduction

The Public Utilities Commission (the Commission or the PUC) issued several data requests to the Division of Public Utilities and Carriers (the Division) regarding the energy efficiency (EE) performance incentive mechanism (PIM) for the 2022 EE Plan.¹ National Grid (the Company) also issued several data requests regarding the EE PIM. In addition, at the December 8, 2021 Hearings in Docket 5189, Chair Gerwatowski noted that he was looking for a “metric” to use to set the magnitude of the target incentive provided by the EE PIM.² Further, at the December 21, 2021 Open Meeting, the Commissioners expressed additional questions about the EE PIM target incentives.

The purpose of this memo is to address some of these questions regarding the application of the EE PIM. We propose a framework for reviewing the PIM target incentive levels each year. We then propose target incentive levels for the EE PIM for the 2022 EE Plan based on this framework. Our recommendations are informed by the Commission’s guidance on PIMs, including the five key principals for developing PIMs, as well as its Order #24225, in Docket 5076.³

2. Framework for How to Determine PIM Target Incentive Levels

First, we recommend that the target incentive levels for the EE PIM be revisited each year. Many aspects of an EE Plan can change from year-to-year, requiring reconsideration of the amount of the target incentive and the allocation of incentives by customer sector.

Second, we recommend that the concept of “capital bias” be considered when determining the target incentive level each year. All regulated utilities have a bias to invest in capital, as opposed to labor, O&M, and other pass-through costs, because they can put capital costs into rate base and earn a return

¹ Throughout this memo, we use the term “target” incentive to refer to the amount of incentive that the Company can earn if it achieves its design level (target) EE goals.

² Throughout this memo, we use the term “EE PIM” to refer to the PIM established by the Rhode Island Public Service Commission for the 2021 EE Plan in Report and Order #24225 in Docket 5076.

³ Public Utilities Commission's Guidance on Principles for the Development and Review of Performance Incentive Mechanisms adopted on May 8, 2020.



on them.⁴ One of the explicit purposes of PIMs in general is to partially offset this bias.⁵ Accounting for the capital bias effect in determining the target incentives helps to keep the EE PIMs in context and can provide a useful benchmark for setting the target incentive. This concept is discussed further below.

Third, we recommend that multiple metrics be considered to determine the EE PIM target incentive. We conclude that there is no single metric that can be used each year to identify the optimal target incentive, and that using multiple metrics will help balance multiple goals of the EE PIM. We, therefore, suggest using the following metrics in concert with one another to define an appropriate target incentive each year.

a) Percent of eligible net benefits

This metric reflects both the eligible costs and the eligible benefits of the energy efficiency programs. This should be the primary metric used to set target incentives, where possible. At the December 21, 2021 Open Meeting, the Commission provided a table of historical and proposed percent of eligible net benefits for the electric and gas EE PIM target incentives.

b) Basis points

This is a concrete metric that helps to put the Company EE PIM earnings in context relative to the other Company earnings. At the December 21, 2021 Open Meeting, the Commission provided a table of historical and proposed basis points for the electric and gas EE PIM target incentives.

c) Return on avoided capital costs

When the Company implements EE programs it avoids capital investments on which it would have otherwise earned a return. We recommend that the potential return on avoided capacity costs be used as a benchmark for determining the target incentives. If the target incentive were below this level, then the Company would experience a financial disincentive from successful energy efficiency programs. (Note that this financial disincentive is different from the financial disincentive associated with lost revenues, which are addressed with decoupling.) We believe that the EE PIM, in conjunction with other cost recovery mechanisms, should (a) eliminate all financial disincentives, and (b) provide the Company a modest positive incentive to design and implement successful EE programs. We present some examples of this metric in Tables 1 and 2 below.

⁴ See: The Rhode Island Division of Public Utilities, the Rhode Island Office of Energy Resources, and the Rhode Island Public Utility Commission, *Rhode Island Power Sector Transformation*, Phase One Report to Governor Raimondo, November 2017, page 16.

⁵ See: *Direct Testimony of Tim Woolf and Melissa Whited*, proceeding on the National Grid proposed tariff changes, Docket No. 4770, on behalf of the Division, April 6, 2018, pages 11-12. *Comments of the Rhode Island Office of Energy Resources*, Re: National Grid's Proposed Power Sector Transformation Vision and Implementation Plan, Docket No. 4780, page 1. *Direct Testimony of Ronald Binz*, Re: National Grid Application to Change Electric and Gas Distribution Revenue Requirements and Associated Rates, Docket No. 4780, on behalf of the New England Clean Energy Council and the Conservation Law Foundation, April 25, 2018, page 18.



d) Comparison with other PIMs.

National Grid is subject to a variety of PIMs. It is useful to compare the EE PIM target incentive level with those of the other PIMs. This helps to put the EE PIMs in context and provides a holistic view of all the incentives being earned by the Company.⁶

3. Recommendations for PIM Target Incentives for 2022 EE PlanElectric Portfolio

We recommend that the target incentive for the 2022 EE Plan be equal to 15% of the eligible net benefits, based on the following considerations:

- A lower target incentive relative to 2021 is appropriate because the proposed eligible net benefits of the 2022 plan is substantially lower than the eligible net benefits for 2021. We note that to some degree, the year over year reduction in eligible net benefits is the result of the implementation of the 2021 Avoided Energy Supply Components (AESC) study.⁷ 15% of eligible net benefits is significantly lower than the 25% of eligible net benefits that the Company seeks and higher than the 7% of eligible net benefits that was the target incentive for the 2021 electric EE programs. We believe that 15% represents a reasonable balance between these two points.
- 15% of eligible net benefits results in a roughly \$3.4 million target incentive for the Alternative Base Plan (ABP).⁸ This is significantly less than what the Company has earned in recent years and is appropriate because of the decreased level of eligible net benefits.
- A target incentive of \$3.4 million for the ABP provides the Company with roughly 70 basis points for achieving the target level of eligible net benefits. We believe that the ability to earn this many basis points *for a program of this size* should be sufficient to encourage the Company to plan for and implement successful EE programs
- A target incentive of \$3.4 million for the ABP is slightly lower than the estimated return on avoided capital costs for the electric EE programs. Given the uncertainty in our estimates of the avoided capital costs, as discussed in Section 6 below, we believe that the \$3.3 million target incentive is reasonable relative to this benchmark.

Table 1 presents our recommended target incentive for the electric EE portfolio alongside the Company's recommendation. It also presents information on basis points and return on avoided capital costs.

Note that our recommendation for setting the target incentive at 15% of net eligible benefits is relevant for the 2022 EE Plan but might need to be modified for future EE plans if the eligible net benefits change significantly.

⁶ Pursuant to C.21.b of the Amended Settlement Agreement (ASA) the Division and National Grid have extended the ASA, and accordingly the ASA remains in effect and the Company continues to operate under the existing terms and conditions of the current Rate Plan.

⁷ AESC 2021 Study: https://www.synapse-energy.com/sites/default/files/AESC%202021_20-068.pdf.

⁸ Pursuant to the Division's Responses to the PUC's First Set of Data Requests, the Division recommended that the Commission approve the Alternate Base Plan, and not the Provisional Plan.



Table 1: Summary of 2022 EE Plan PIMs: Electric Portfolio

Metric	National Grid		Synapse	
	ABP	Provisional	ABP	Provisional
Target incentive (\$)	5,500,000	5,500,000	3,390,165	3,263,710
Percent of Eligible Net Benefits	24%	25%	15%	15%
Basis Points of Target Incentive	117	117	72	69
Return on Avoided Capital Costs (\$)	---	---	3,451,565	3,732,688

The National Grid Proposal is from the Commission's handout at the December 21, 2021 Open Meeting. The Synapse proposal uses the same information, plus the avoided capital costs from the 2022 EE Plan. The calculation of the return on avoided capital costs is provided in Section 6 below.

Gas Portfolio

The gas portfolio eligible net benefits for the 2022 EE Plan are negative. This makes it difficult to set the target incentive using eligible net benefits. Therefore, we recommend that the eligible net benefits metric not be used for setting the gas portfolio target incentive for 2022. Instead, we recommend choosing a target incentive level on other factors, including basis points, return on avoided capacity, and comparison to previous years.

We recommend a target incentive of \$1.0 million, based on the following considerations:

- A target incentive of \$1.0 million is significantly less than the \$1.7 million requested by the Company and is significantly less than what the Company has earned in recent years.
- This amount will provide the Company with 21 basis points. We believe that the ability to earn this many basis points *for a program of this size* should be sufficient to encourage the Company to plan for and implement successful gas EE programs.
- A target incentive of \$1 million is lower than the estimated return on avoided capital costs for the gas EE programs. Given the uncertainty in our estimates of the avoided capital costs, as discussed in Section 6 below, we believe that the \$1.0 million target incentive is reasonable relative to this benchmark.

Table 2 presents our recommended target incentive for the gas EE portfolio alongside the Company's recommendation. It also presents information on basis points and return on avoided capital costs.

Note that our recommendation for setting the target incentive at \$1.0 million is relevant for the 2022 EE Plan but might need to be modified for future EE plans if key elements of the EE programs change significantly.

Table 2: Summary of 2022 EE Plan PIMs: Gas Portfolio

Metric	National Grid	Synapse
Target incentive (\$)	1,700,000	1,000,000
Percent of Eligible Net Benefits	-292%	-172%
Basis Points of Target Incentive	34	21
Return on Avoided Capital Costs (\$)	---	1,511,206

The National Grid Proposal is from the Commission's handout at the December 21, 2021 Open Meeting. The Synapse proposal uses the same information, plus the avoided capital costs from the 2022 EE Plan. The calculation of the return on avoided capital costs is provided in Section 6 below.



4. Allocation of Incentives Across the Three Customer Sectors

The Commission's Data Request 1-4 to the Division asked several questions about the design payout rates of the 2022 EE PIM, especially about whether the design payout rates should be changed from 2021 to 2022. The Division's response, in general, was that the design payout rates should change from 2020 to 2022 to reflect the changes to the costs and benefits of the EE programs. This section of this memo is intended to elaborate upon the Division's response to PUC 1-4 considering our recommendations above regarding the PIM target incentive framework.

It is important to set target incentives for each of the three customer sectors, Residential, Income-Eligible, and C&I; in addition to the target incentive for the entire portfolio (discussed in the previous sections). We recommend that these customer sector target incentives be revisited for each new annual EE Plan, consistent with our recommendations above for the portfolio target incentive.

The target incentives cannot be allocated across the customer sectors using eligible net benefits because these are negative for the Residential and Income Eligible sectors, and we are not aware of a method for allocating target incentives when some sectors have eligible benefits that are negative and others are positive. Therefore, allocating the incentives across sectors using the percentage of eligible benefits for each sector is the next best approach for this allocation. While this approach does not reflect the eligible costs of the programs, this is a reasonable option for making this allocation.

Table 3 presents the portions of eligible benefits that are experienced in the three customer sectors, for the Alternative Base Plan and the Provisional Plan of the electric portfolio. The percentages of eligible net benefits across the three customer sectors do not change much between the plans. Table 3 also presents our recommendation for how the target incentive should be allocated across the three sectors.

Table 3: Allocation of Target Incentives Across Customer Sectors: Electric Portfolio

Customer Sector	Alternative Base Plan		Provisional Plan		Synapse
	Eligible Benefits (\$)	Eligible Benefits (% of total)	Eligible Benefits (\$)	Eligible Benefits (% of total)	
Sector					Allocation of Target Incentive
Non-Income-Eligible	32,168	26%	32,169	24%	26%
Income-Eligible	10,835	9%	10,833	8%	9%
C&I	80,703	65%	89,014	67%	65%

Table 4 presents the portions of eligible benefits that are experienced in the three customer sectors, for the gas portfolio. Table 4 also presents our recommendation for how the target incentive should be allocated across the three sectors, based upon the eligible benefits.

Table 4: Allocation of Target Incentives Across Customer Sectors: Gas Portfolio

Customer Sector	2022 EE Plan		Synapse
	Eligible Benefits (\$)	Eligible Benefits (% of total)	
Sector			Allocation of Target Incentive
Non-Income-Eligible	11,306	33%	33%
Income-Eligible	4,670	14%	14%
C&I	18,514	54%	54%

Note that our recommendation for the allocation of the target incentive across customer sectors is relevant for the 2022 EE Plan but should be modified for future EE plans to reflect the percentage of sector eligible benefits of those plans.



Note that other factors could be considered in allocating the target incentives across customers sectors. For example, more of the incentive could be allocated to the Income-Eligible sector because it is more challenging to reach and serve those customers, while less of the incentive could be allocated to the C&I sector because those customers are easier to reach and to serve.

5. Important Caveat

Our recommendations above are based on the data available at this time. Some of this data might need to be double-checked or updated before making final decisions.

6. Calculation of the Return on Avoided Capital Costs

Method and Assumptions

The avoided capital costs are provided by the Company in its EE plans. These are provided in terms of the cumulative present value of the annual avoided costs experienced over the life of the EE measures (in 2021 present value dollars).

To estimate the return on avoided capital costs, it is first necessary to determine the annual revenue requirements associated with those capital costs. The revenue requirements account for depreciation, recovery of equity, recovery of debt, taxes, and more. Breaking out the revenue requirements this way allows us to isolate the annual equity earnings associated with the avoided capital costs. We then discount the annual equity earnings to calculate the present value of the return on avoided capital costs.

We use a simplistic revenue requirements model to estimate the revenue requirements associated with the avoided capital costs. The model is presented in Tables 6 and 7 below. We also provide the workbook where the model was used to estimate revenue requirements, as an attachment to this memo. Table 5 presents some of the key inputs for this model, as well as the sources of those inputs.

Table 5: Inputs to Simplistic Revenue Requirements Model

Data	Input	Source
Depreciation rate	3.33%	From 2023 SRP, December 20, 2021
Book life (depreciation period)	30 years	Calculated from depreciation rate
Allowed ROE	9.275%	Electric ESM Earnings Report, May 2021
Cost of debt	4.85%	Electric ESM Earnings Report, May 2021
Debt / equity ratio	49%	Electric ESM Earnings Report, May 2021
Weighted avg. cost of capital	7.0%	Calculated from above
Federal tax rate	21%	US income tax on utilities
State tax rate	4%	Rhode Island gross receipts tax

We use the revenue requirements model as follows:

- We iterate the up-front capital cost input to the model, until the revenue requirements model produces a present value of revenue requirements equal to the avoided capital costs, which are also in terms of present value of revenue requirements.
- The revenue requirements model provides the annual after-tax return on equity from these avoided capital costs, for each year over which the costs are depreciated. In other words, it isolates the equity portion of the revenue requirements.



- We then estimate the present value of the after-tax return on equity. This present value was calculated using the allowed ROE as the discount rate, as opposed to the weighted average cost of capital, because this calculation of present value is from the perspective of equity shareholders and the allowed ROE represents their cost of capital.

Avoided Capital Costs from the Electric EE Portfolio

We assume that the avoided capital costs from the electric EE programs are limited to the avoided distribution capacity costs. The other costs are passed through to customers without going into rate base or earning a return for the Company. Our assumption is consistent with the method that was used by the Company to estimate the avoided distribution costs for the 2022 EE Plan, which are based on historic and projected capital expenditures.⁹ Our assumption is conservative in that it does not include any avoided capital costs associated with transmission.

The electric EE programs also result in some avoided gas costs. We assume that the avoided capital costs from the gas savings are limited to the avoided gas distribution costs, consistent with our assumption for avoided electric capital costs. In the case of avoided gas costs, the Company does not provide avoided gas distribution costs separately from the rest of the avoided gas costs. Therefore, we assume that 15% of the total avoided gas costs are for distribution costs and the other 85% of avoided costs are for gas commodity and transportation costs. This assumption is explained further below in the gas section.

These assumptions result in the following avoided capital cost estimates:

- For the ABP: Avoided electric distribution costs are equal to \$11.87 million.¹⁰ Avoided gas distribution costs for the electric programs are equal to -\$0.36 million, which is equal to 15% times the total avoided gas costs of -\$2.40 million.¹¹ The total avoided capital costs are the sum of the avoided electric and gas capital costs, which is \$11.51 million.
- For the Provisional Plan: Avoided electric distribution costs are equal to \$12.82 million.¹² Avoided gas distribution costs are equal to -\$0.38 million, which is equal to 15% times the total avoided gas costs of -\$2.51 million.¹³ The total avoided capital costs are the sum of the avoided electric and gas capital costs, which is \$12.45 million.

Avoided Capital Costs from the Gas EE Portfolio

We assume that the avoided capital costs from the gas EE programs are equal to the avoided distribution capacity costs. The other costs are passed through to customers without going into rate base or earning a return for the Company. This is consistent with our assumption above regarding electric EE programs. This assumption is conservative in that it does not include any avoided capital costs associated with gas transportation or storage.

The Company does not provide avoided gas distribution costs separately from the rest of the avoided gas costs. To estimate the avoided gas distribution costs, we assume that the avoided gas distribution costs are equal to 15% of the total avoided gas costs. This assumption is based on the results of the 2021

⁹ From the 2022 EE Plan, Attachment 4, page 7 of 36.

¹⁰ From the 2022 ABP, Table E-6 of the Company response to PUC 2-17.

¹¹ From the 2022 ABP, Table E-6 of the Company response to PUC 2-17.

¹² From the 2022 Provisional Plan, Attachment 5, Table E-6.

¹³ From the 2022 Provisional Plan, Attachment 5, Table E-6.



AESC study, which indicates that the total avoided costs are equal to 5.63 \$/MMBtu and the distribution avoided costs are equal to 0.96 \$/MMBtu.¹⁴

The total avoided gas cost for the 2022 gas EE programs is \$32.67 million.¹⁵ We assume the distribution portion of this avoided cost is 15% of the total, which is \$4.9 million.

The gas EE programs also result in avoided electricity distribution costs of \$0.14 million.¹⁶ The sum of the avoided gas and electric distribution costs is roughly \$5.0 million.

Important Caveats

There are several simplifying assumptions used in these calculations. First in practice, the avoided capital costs are not incurred in a single year up front. Instead, they are incurred across many years over the life of the EE measures. Nonetheless, we believe that the method used here is reasonable because investments made in later years would need to be discounted anyway.

Second, we make some simplifying assumptions about the portion of avoided costs that are capital costs, as opposed to O&M costs that are passed through to customers. For the electric EE programs, we assume that all avoided distribution costs are capital costs, and for the gas EE programs we assume the same thing and estimate the avoided gas distribution costs to 15% of the total avoided gas costs. To the extent that avoided capital costs are higher or lower than what we assume, the return on those avoided costs will be higher or lower as well.

For these reasons, we do not recommend that the estimates of return on avoided capital costs provided here be used as a hard floor for determining the target incentives for the EE PIM. Instead, given the uncertainties with our estimates at this time, we recommend that our estimates of the return on avoided capital costs be used as a benchmark for setting the 2022 target incentives. As noted above, we recommend that the percent of eligible net benefits be the primary metric used to set the target incentive and that the basis points and return on avoided capital costs be used as secondary considerations.

¹⁴ The total avoided gas costs are from AESC 2021, Table 12, for Residential Non-Heating. The avoided gas distribution costs are from AESC 2021, Table 10, for Residential Non-Heating.

¹⁵ From the 2022 EE Plan, Attachment 6, Table G-6.

¹⁶ From the 2022 EE Plan, Attachment 6, Table G-6.



Table 6. Revenue Requirements Calculation for the Avoided Electric Capital Costs: ABP

ABP Electric Plan		Cost of Capital info from Rate Case (Docket 4770)												From: Electric ESM Earnings Report, May 2021, for 12 months ended 12/31/2020.																	
Inputs:		Portion												Cost																	
Up-Front Capital Investment		0.60%												1.76%																	
Life of Investment (years)		48.35%												4.62%																	
WACC		0.10%												4.50%																	
Federal + State Taxes		50.95%												9.275%																	
Pre-Tax ROE		100.00%												6.974%																	
After Tax ROE		48.95%												4.58%																	
Cost of Debt		51.05%												9.27%																	
Equity Ratio		100.00%												6.974%																	
Debt Ratio		49%																													
	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
REVENUE REQUIREMENTS																															
Undepreciated Plant Balance	10,166,000	9,827,133	9,488,267	9,149,400	8,810,533	8,471,667	8,132,800	7,793,933	7,455,067	7,116,200	6,777,333	6,438,467	6,099,600	5,760,733	5,421,867	5,083,000	4,744,133	4,405,267	4,066,400	3,727,533	3,388,667	3,049,800	2,710,933	2,372,067	2,033,200	1,694,333	1,355,467	1,016,600	677,733	338,867	
Depreciation expense	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867	338,867
Pre-Tax Return on Equity	641,170	619,797	598,425	577,053	555,680	534,308	512,936	491,563	470,191	448,819	427,446	406,074	384,702	363,329	341,957	320,585	299,212	277,840	256,468	235,096	213,723	192,351	170,979	149,606	128,234	106,862	85,489	64,117	42,745	21,372	
Debt Expense	228,145	220,541	212,936	205,331	197,726	190,121	182,516	174,911	167,307	159,702	152,097	144,492	136,887	129,282	121,678	114,073	106,468	98,863	91,258	83,653	76,048	68,444	60,839	53,234	45,629	38,024	30,419	22,815	15,210	7,605	
Total Revenue Requirements	1,208,182	1,179,204	1,150,227	1,121,250	1,092,273	1,063,296	1,034,319	1,005,341	976,364	947,387	918,410	889,433	860,456	831,478	802,501	773,524	744,547	715,570	686,593	657,615	628,638	599,661	570,684	541,707	512,730	483,752	454,775	425,798	396,821	367,844	
After-Tax Return on Equity	480,877	464,848	448,819	432,789	416,760	400,731	384,702	368,673	352,643	336,614	320,585	304,556	288,526	272,497	256,468	240,439	224,409	208,380	192,351	176,322	160,292	144,263	128,234	112,205	96,175	80,146	64,117	48,088	32,058	16,029	
Outputs:																															
SHAREHOLDER RETURN (AFTER-TAX)																															
Return on Equity (Total After-Tax)	\$7,453,597																														
PV of Return (using ROE as discount rate)	\$3,451,565																														
REVENUE REQUIREMENTS																															
Total Revenue Requirements	\$23,640,382																														
PV of Revenue Requirements (using WACC)	\$11,511,187																														
PV of 2022 EE Avoided Capital Costs	\$11,511,164																														

Table 7. Revenue Requirements Calculation for the Avoided Gas Capital Costs

Gas Plan		Cost of Capital info from Rate Case (Docket 4770)												From: Electric ESM Earnings Report, May 2021, for 12 months ended 12/31/2020.																
Inputs:		Portion												Cost																
Up-Front Capital Investment		0.60%												1.76%																
Life of Investment (years)		48.35%												4.62%																
WACC		0.10%												4.50%																
Federal + State Taxes		50.95%												9.275%																
Pre-Tax ROE		100.00%												6.974%																
After Tax ROE		48.95%												4.58%																
Cost of Debt		51.05%												9.27%																
Equity Ratio		100.00%												6.974%																
Debt Ratio		49%																												
	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
REVENUE REQUIREMENTS																														
Undepreciated Plant Balance	4,451,000	4,302,633	4,154,267	4,005,900	3,857,533	3,709,167	3,560,800	3,412,433	3,264,067	3,115,700	2,967,333	2,818,967	2,670,600	2,522,233	2,373,867	2,225,500	2,077,133	1,928,767	1,780,400	1,632,033	1,483,667	1,335,300	1,186,933	1,038,567	890,200	741,833	593,467	445,100	296,733	148,367
Depreciation expense	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367	148,367
Pre-Tax Return on Equity	280,725	271,367	262,010	252,652	243,295	233,937	224,580	215,222	205,865	196,507	187,150	177,792	168,435	159,077	149,720	140,362	131,005	121,647	112,290	102,932	93,575	84,217	74,860	65,502	56,145	46,787	37,430	28,072	18,715	9,357
Debt Expense	99,889	96,560	93,230	89,900	86,571	83,241	79,911	76,582	73,252	69,923	66,593	63,263	59,934	56,604	53,274	49,945	46,615	43,285	39,956	36,626	33,296	29,967	26,637	23,308	19,978	16,648	13,319	9,989	6,659	
Total Revenue Requirements	528,981	516,293	503,606	490,919	478,232	465,545	452,858	440,171	427,484	414,796	402,109	389,422	376,735	364,048	351,361	338,674	325,986	313,299	300,612	287,925	275,238	262,551	249,864	237,177	224,489	211,802	199,115	186,428	173,741	161,054
After-Tax Return on Equity	210,543	203,525	196,507	189,489	182,471	175,453	168,435	161,417	154,399	147,380	140,362	133,344	126,326	119,308	112,290	105,272	98,254	91,235	84,217	77,199	70,181	63,163	56,145	49,127	42,109	35,091	28,072	21,054	14,036	7,018
Outputs:																														
SHAREHOLDER RETURN (AFTER-TAX)																														
Return on Equity (Total After-Tax)	\$3,263,423																													
PV of Return (using ROE as discount rate)	\$1,511,206																													
REVENUE REQUIREMENTS																														
Total Revenue Requirements	\$10,350,516																													
PV of Revenue Requirements (using WACC)	\$5,039,966																													
PV of 2022 EE Avoided Capital Costs	\$5,039,100																													